United States
Environmental Protection
Agency

Office of Pollution
Prevention and Toxics
Washington, DC 20460

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Pollution Prevention News

Highlights

Read PPN on the Internet!
www.epa.gov/opptintr/ChemLibPPN

Clean Water Initiative Announced

EPA and USDA have joined forces in developing an Action Plan to carry out President Clinton's Clean Water Initiative. The President has proposed $568 million in new resources in his FY 1999 budget to carry out the plan. The plan will emphasize a watershed pollution prevention approach and partnership with states and tribal authorities in tackling some of the most intractable water pollution problems. Among the many goals articulated in the plan are the following:

- Implementation of polluted runoff controls by the year 2000 by state and tribal authorities.
- Establishment of numeric criteria for nitrogen and phosphorus by 2000 that reflect different types of water bodies and ecoregions of the country.
- An EPA strategy on controlling pollution from animal feeding operations.
- A net increase of 100,000 wetland acres per year by the year 2005.
- A Unified Federal Policy, led by the Department of the Interior and USDA, to enhance watershed management on federal lands. Federal land managers will improve water quality protection for over 2,000 miles of roads and trails each year through 2005 and decommission 5,000 miles each year by 2002.

For more information on the Clean Water Initiative, go to www.epa.gov/owowwtr1/cleanwater/.

TV, VCR Manufacturers Join Energy Star Program

On January 8, Vice President Al Gore announced partnerships with leading manufacturers to promote energy-saving TVs and VCRs. The new devices could save Americans hundreds of millions of dollars in electricity bills while significantly curbing greenhouse gas pollution.

Under agreements with EPA, 11 consumer electronics companies will produce and market products that use significantly less energy than those currently on the market, with no sacrifice in performance or price change. Qualifying TVs and VCRs will bear an ENERGY STAR label, notifying consumers that they have been certified as energy-efficient by EPA.

The energy savings will help reduce the burning of fossil fuels and the related carbon dioxide pollution that contributes to global warming. If every American family replaced its TVs and VCRs with ENERGY STAR models, the result would be reduction in carbon dioxide emissions by five million tons every year — equivalent to eliminating the pollution from more than one million cars.

Manufacturers assert that the new models will also reduce energy leakage by up to 75 percent, ultimately translating into more than $500 million a year in consumer energy savings.

Look for information about ENERGY STAR at www.epa.gov/energystar or by calling toll-free 888-STAR-YES.

News & Notes

FIRST CLUSTER RULE WILL ELIMINATE PULP & PAPER DIOXIN RELEASES

EPA has issued a final rule requiring pulp and paper mills to meet new baseline limits for toxic pollutant releases to the air and water. The new limits will virtually eliminate dioxin discharges and cut toxic air pollutant emissions by almost 160,000 tons annually.

This new integrated, multi-media regulation or "cluster rule" is the first issued by EPA to control the release of pollutants to two media (air and water) from a single industry. The rule allows pulp and paper mills to select the best combination of pollution prevention and control technologies to address both regulatory requirements at one time.

The new cluster rule also provides incentives for mills to adopt advanced pollution control technologies that will lead to further reductions in toxic pollutant discharges beyond the limits set in the rule. Mills volunteering for this program will be subject to more stringent reductions, but will receive rewards, such as additional compliance time, for their participation.

The rule and additional information are available on the Internet at: www.epa.gov/OST/pulppaper/.

More News & Notes on page 10

OPPT ANNUAL REPORT

EPA's Office of Pollution Prevention and Toxics has issued its FY 1997 Annual Report which reviews progress in each major mission area and project activities. Print copies are available through the TSCA Hotline, 202-554-1404. An online version can be accessed at www.epa.gov/opptintr/opptpub.htm/.

OPPT DRAFT STRATEGIC AGENDA AVAILABLE

EPA's Office of Pollution Prevention and Toxics is developing a strategic agenda for meeting its major programmatic objectives over the next six years. The final agenda will outline what the office hopes to accomplish by 2005, how it plans to measure progress, and what strategies will be adopted.

The agenda is being developed partly as a response to the Government Performance and Results Act of 1993, which requires federal agencies to prepare a comprehensive strategic plan, annual performance plans, and reports that compare goals and results. OPPT and EPA Region 9 are coordinating planning efforts for Goal 4 of EPA's Strategic Plan (September 1997), which focuses on the role of pollution prevention in reducing risk to communities, homes, workplaces, and ecosystems. OPPT's strategic agenda will describe how OPPT is planning to approach the specific elements of the agency plan that fall within its scope of activity.

The draft agenda will be circulated among interested stakeholders, such as states, trade associations, and public interest groups, in order to obtain feedback on the strategies and measures put forward. To obtain a copy, contact Hugh Gibson, tel: 202-260-2717, fax: 202-260-1764, or e-mail: Gibson.Hugh@epamail.epa.gov/.

NPPC WILL UPDATE EDUCATION DIRECTORY

The nonprofit National Pollution Prevention Center for Higher Education (NPPC) is updating its *Directory of Pollution Prevention in Higher Education: Faculty and Programs*. College educators or affiliates of a P2 center should contact the NPPC by June 1, 1998 to be listed in the Fall 1998 edition. The Directory describes activities of faculty who are integrating environmental concepts into curricula of various disciplines, including science, engineering, business, agriculture, and architecture; detailed contact information is provided for each entry. A complete list of NPPC resources is available. Contact NPPC, University of Michigan, 430 East University, Ann Arbor, MI 48109-1115; tel: 734-764-1412; fax: 734-647-5841; e-mail: nppc@umich.edu or go to www.umich.edu/~nppcpub/.

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Watersheds

Surf Your Watershed! First National Assessment Available on the Internet

EPA's first comprehensive assessment of U.S. watersheds shows that: 16 percent of watersheds have good water quality; 36 percent have moderate water quality; 21 percent have more serious problems; and sufficient data are lacking to fully characterize the remaining 27 percent. Watersheds, which include all areas draining into a body of water, represent a holistic approach to assessing the health of aquatic resources nationally.

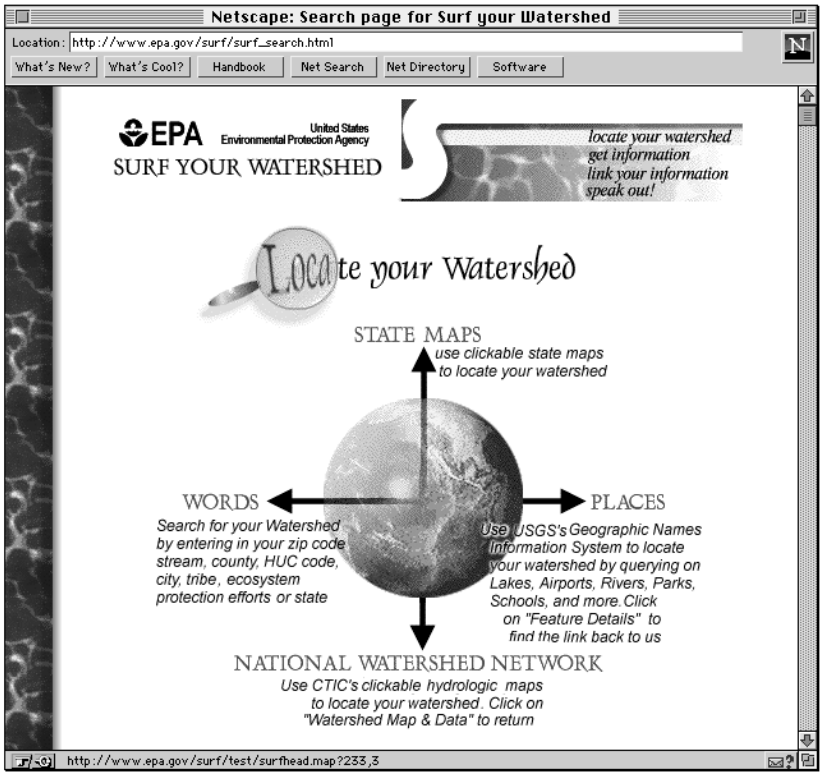
Released in October, 1997, the results of the assessment have been incorporated into a new EPA website called Surf Your Watershed. The study indicated that polluted runoff from urban and rural areas is a major contributor to water quality problems and threatens water quality in healthy watersheds, as well. About 7% of the 2,111 watersheds in the continental U.S. are vulnerable to further degradation from polluted runoff.

EPA made the watershed assessments by combining 15 individual databases available from many public and private sources into an "Index of Watershed Indicators" (IWI) database. Each database represents an "indicator" used to assess and score the condition of the watershed and its vulnerability to degradation from pollution or development.

Seven indicators are used to characterize watershed conditions: rivers; fish and wildlife consumption advisories; drinking water sources; contaminated sediments; ambient water quality using four toxic pollutants; ambient water quality using four conventional pollutants; and wetlands loss.

Another eight indicators are used to assess vulnerability: aquatic/wetland species at risk; pollutant loads above permitted limits for toxic pollutants; pollutant loads above permitted limits for conventional pollutants; urban runoff potential; agricultural runoff potential; population change; hydrologic modifications from dams; and estuarine pollution susceptibility.

The IWI is available on the Internet at: www.epa.gov/surf/iwi. Additional instructions and hard copy are available from: National Center for Environmental Publications and Information (Publication #EPA-841-R-97-010), tel: 513-489-8190; fax: 513-489-8645.



Interested in finding out just how environmentally fit your local watershed is?

It's simple — just go to EPA's new Surf Your Watershed website at www.epa.gov/surf/. Once there you can access the Index of Watershed Indicators which provides a wealth of information on watersheds nationally and locally. You can get the big picture by clicking on the map of the United States, or get the scoop on your local watershed by clicking on your state. From there you can find out just how your watershed ranks against others nationally, find out what problems there are, then link to public and private organizations that are working to protect and restore your watershed.

Utility Deregulation

Deregulation is coming to one of the last remaining government-regulated monopolies: the electric power industry. What effects will this restructuring of the industry have on the environment? How will it affect the industry's current pollution prevention efforts? PPN posed these questions to the president of an energy advocacy non-profit organization, an executive vice president of a public utility, and the vice president of an energy industry association. Following are their insights and views on the topic.

Power Politics Portends Problems for Pollution Prevention

David M. Nemtzow

by David M. Nemtzow
President, Alliance to Save Energy

Like two trains hurtling down the tracks, electricity deregulation and climate change mitigation are heading for Washington, D.C. Whether these issues move forward smoothly together or collide catastrophically now commands the attention of the Clinton administration and Congress as they consider the future of the $200 billion per annum electricity industry, the source of one-third of the U.S. carbon emissions and an even larger fraction of many other pollutants.

With stakes so high the debate runs deep, especially regarding air quality. Proponents of greater competition in the highly regulated electric industry – while primarily promising lower prices – also claim that greater competition will lead to heightened operating efficiencies and cleaner air. Clean air advocates – agnostic on the price issue – warn that vigorously competing utilities will pollute more freely as they switch to cheaper, dirtier fuel and lessen investments in energy efficiency and other pollution mitigation efforts.

Pro-competition advocates underscore one sobering statistic to make their case: the typical powerplant in the U.S. today is only about 32 percent efficient – sending more than two times as much energy up smokestacks as waste heat than over the wires as usable electric power. (In aggregate, U.S. powerplants waste more energy each year than Germany uses for all purposes combined.) The reasons are many, and while the second law of thermodynamics cannot be vetoed, competition certainly will help dismantle the current regulatory regime that fully reimburses utilities for all of their costs – including wasted fuel and inefficient powerplants. They envision a future of highly efficient powerplants, primarily combined cycle combustion turbines powered by natural gas. Additionally, they expect new competitors to emerge offering consumers new clean choices, including "green power" and energy efficiency products and services.

"Deregulation is already leading to increased air pollution."

By contrast, clean air advocates warn that utilities – looking at the current excess of coal-fired capacity in U.S. powerplants – will best be able to compete cheaply by running coal plants more hours per year, not by building and using new gas-fired plants, which will rapidly increase coal consumption and air emissions. Additionally, they believe that cutthroat competition will place great downward pressure on costs, leading utilities to limit, or even eliminate, their existing energy efficiency and renewable energy programs. Finally is the concern that cheaper prices will discourage consumers from using electricity efficiently.

Unfortunately the data so far indicate that these metaphorical trains are in fact on a collision course and that deregulation is already leading to increased air pollution. The U.S. Department of Energy recently found that in 1996, utility carbon emissions increased by 4.7 percent – twice the rate of growth of electric demand – "because coal-fired generation met a disproportionately large share of the increased demand for electricity" and noted that between 1990 and 1996 utility carbon emissions increased by 40 million metric tons of carbon. Similarly, a study of

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Utility Deregulation

How Will Utility Deregulation Affect Pollution Prevention Efforts in the U.S.?

by Kathryn Jackson, Ph.D., Executive Vice President, Tennessee Valley Authority

Utility industry reformers claim that by deregulating the electric utility industry the competition that results will bring supplier choice to the customer, thus lowering the cost of electricity. There are differing opinions about how utility deregulation will affect pollution prevention efforts in the U.S. But everyone who is involved in crafting or influencing the legislation to create a deregulated utility market is hoping that in the aftermath, new laws will favor their positions.

The worst case scenario for pollution prevention would be related to coal-fired generation. Right now utilities owning coal-fired plants are thought to have the greatest competitive advantage because they run below capacity. This means those companies are capable of selling more electricity the minute the law says they can go out and get new customers to buy their excess capacity. But this also means that the amount of emissions from those facilities will increase. To prevent this scenario, specific legislation would have to be drafted.

The cost of future environmental regulation will be a critical factor in determining which companies can compete and succeed in an open market. In anticipation of utility deregulation, hundreds of millions of dollars are being spent at power plant sites across the country. Regardless of the generation — gas, coal, oil, hydro, or nuclear — utilities are seeking new equipment, new upgrades, and more efficient maintenance and operations. Moreover, they are cleaning up contaminated soil and water. Why? Because in the future the most efficient energy generation will make the best economic sense. And efficient generation includes cleaner technologies and the avoided costs of noncompliance with federal pollution standards.

It appears that new federal laws will actually restructure the industry, not deregulate it entirely. Congress is interested in ensuring that all customer classes benefit from a restructured industry. Leading Congressional deregulation sponsors claim that consumers are driving the issue. So advocacy groups could have significant influence on continued pollution prevention efforts according to their ability to rally consumers to get involved in creating a free electricity market. Currently, organized environmental advocates are using the restructuring debate to call for the elimination of differences in allowable emission rates for power plants as a way to use deregulation to reduce emissions in the U.S.

Polls show that most consumers understand that the choice between two or more competing companies is better than having no choice at all. Yet we know from the deregulation of other industries that consumers can be slow to take advantage of competition These same consumers of electricity are also citizens who seek environmental protections. Adequate restructuring legislation should recognize that not all consumers are alike, that there is great diversity among consumer expectations and needs. Competition should not be the end but the means to deliver the benefits of adequate and reliable electricity, ample choice, and attractive prices.

Kathryn Jackson

"The cost of future environmental regulation will be a critical factor in determining which companies can compete and succeed in an open market."

Most consumers aren't yet thinking of their electricity in environmental terms. It's anticipated that eventually some customers, concerned with global warming and environmental pollution, will develop an increased awareness of how their electricity is produced and may switch from one company to another that can offer energy produced from non-polluting sources. Because the capital costs of energy production are so high, some suppliers may have trouble filling the

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Utility Deregulation

Power Politics

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power generation in the Midwest over the past two years by air quality officials from Northeastern states found that the increased use of coal-fired powerplants led to the increased emission of pollutants that contribute to smog and acid rain.

Furthermore, utility-sponsored energy efficiency programs have declined dramatically over the past few years. DOE recently reported that spending on demand-side management programs has sharply decreased; from 1994 to 1996 demand-side management spending declined by 30 percent and anticipated energy savings growth also fell. And while many utilities are providing green power options, it is unclear how many consumers will voluntarily pay extra for less-polluting power – especially among commercial and industrial customers, who make up 62 percent of total electric demand.

With an eye on these worrisome trends, numerous policy tools are being explored that will permit greater competition and cleaner air, including:

- Led by California and New York, several states have adopted "**system benefit trusts**" as an integral component of deregulation. These trust funds collect small fees – typically one-tenth cent per kilowatthour (about 1 percent of retail prices) – from all users to fund efficiency, renewables, R&D and low-income programs. As of this writing, the Clinton administration's electricity deregulation proposal is expected to propose such a mechanism.
- A "**renewable portfolio standard**" would require utility companies either to build or buy rights to a minimum amount of renewable energy.
- A "**cap and trade**" program – as is now done for SO_2 – could set a fixed cap limiting the emissions of CO_2 (or any other pollutant) and then let utility companies trade with each other for the right to create these emissions.
- Various policies may be adopted that are designed to limit CO_2 and other pollutants from all sectors and will therefore have a large potential impact on utility-sector emissions, including economy-wide cap and trade, energy taxes, and R&D into new cleaner energy sources.

It is too early to say with certainty what impact utility deregulation will have on pollution prevention efforts. But both economic theory and new data suggest that laissez-faire electric deregulation is likely to lead to more pollution and quickening climate change. It's a train whistle that the Clinton administration and Congress must heed.

Effects of Deregulation

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requests for energy produced from technologies that reduce the total amount of particulates, CO_2, SOx and NOx.

Open-market competition can deliver pollution prevention benefits if we recognize that restructuring is a process, not an event. The important environmental benefits that might be derived from restructuring could possibly touch every facet of American life. If done carefully, deregulation could have lasting importance on pollution prevention efforts in the U.S.

Earth Day is April 22nd!

Thousands of events are taking place nationwide. Check the Web for activities in your area:

http://www.earthday.org/

Utility Deregulation

Electric Deregulation and Pollution Prevention

by Robert A. Beck,
Vice President, Environmental Affairs
Edison Electric Institute


Robert Beck

This year could be pivotal for the electric utility industry. Retail competition is on the public policy agenda in every state. States with nearly half the U.S. population have adopted or are considering their own industry restructuring plans. One of the many consequences of this change is the eventual effect it will have on environmental programs, including pollution prevention.

Despite a short federal legislative calendar, decisions will be made that by years' end, will make the future clearer than it is today. Today's political and regulatory landscape includes 11 proposed federal electric restructuring bills with widely varying provisions, and moves forward from a foundation of 21 hearings by five congressional committees involving more than 100 witnesses.

How will this debate affect environmental issues? That remains to be seen. But in states where competition is nearly underway, environment is becoming a tool in the marketing of electricity.

In some parts of the country, consumers are being courted by providers of "green" power. Many newly deregulated competitors in this marketplace are positioning themselves as companies that take extraordinary strides to protect the environment.

These companies already have produced outstanding pollution prevention programs. Their challenge may be to communicate the environmental worth of their programs to a public with an appetite for cost savings, but little taste for technical-sounding information. Still, electric utilities have much to tell.

Nationally, electric utilities can point with pride to the effectiveness of an industry-wide program, the Climate Challenge. The Climate Challenge is a voluntary carbon reduction program conducted by utilities nationwide that has resulted in the mitigation of vast amounts of carbon equivalent from the atmosphere.

As individual companies, electric utilities achieve substantial pollution prevention through improved boiler cleaning; building materials; better chemical containment; antifreeze recycling; lighting waste handling; hydraulic fluid, solvents and oil recovery and waste reduction; recycling of scrubber sludge; and numerous other activities. While some of these efforts have an esoteric ring to them, they are important and result in significant pollution prevention.

Some of these programs demonstrate an unrelenting commitment to ingenuity in keeping the environment clean at an affordable cost. At the Georgia Power Company Bowen plant, for example, plant operators devised a means of reducing visible pollution during start-ups. They solved the problem by increasing ventilation in the combustion chamber and adjusting the flow of fuel to the power plant's igniters. The result continues to be cleaner air for everyone near the plant.

Some programs solve smaller but important problems. Engineers at Duke Power Company's Allen Steam Station, for example, developed a device that restores "dead" Ni-Cad batteries to life. These batteries are used in communications and other devices. Normally, constant recharging develops a battery memory that eventually makes them unusable. But rather than dispose of these, engineers figured out how to erase the memory and revive the batteries. The renewed batteries last six to ten times longer and reduce the amount of hazardous waste generated by battery disposal.

In the national clean air debate, volatile organic compounds (VOCs) are recognized as a key building block of ground-level ozone, or smog. A number of utilities are aggressively reducing VOC emissions. One way to do that is to use electric vehicles (EVs) of all kinds, from forklifts to pickup

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Awards

EPA Region 7 Honors Pollution Prevention Projects

Eight innovative and cost-effective pollution prevention programs conducted by individuals, communities, schools, governments, and businesses in EPA Region 7 were recognized for their achievements in 1997 with Environmental Excellence Awards. Recipients included:

Kansas City, Missouri's "Bridging the Gap" Environmental Excellence Campaign — a joint educational outreach effort by businesses, individuals, schools and local governments to teach people simple steps to help the environment in every part of their daily lives. Started in 1994, the program now includes over 700 organizations, 18,000 individuals, and 1,100 teachers as active participants.

Midwest Iron & Metal Co., Inc.'s "Blue Bag Recycling Program" — a recycling program that started in Hutchinson, KS, in 1991 processing 28,100 pounds per month, has grown to include Reno County residents, the cities of Hays, Spivey, Cunningham, Nashville, Zenda, Plevna, Sylvia, Arlington, and Willowbrook, and now processes 233,000 pounds of recyclables per month.

The Gates Rubber Company's, "Reuse of Hydrocarbons Program" — a program instituted to design, build, and install new technology that would reuse hydrocarbons employed during a production process that resulted in significant reductions of VOC emissions.

Gastinger, Walker, Harden Architects, "New York Life Building Renovation" — a program that renovated one of Kansas City's most significant historic structures with state-of-the-art energy, communications and environmental capabilities to achieve optimum efficiency and environmental control.

Pella Corporation "Using Activated Carbon for Chromium Recovery from Industrial Wastewater" — the company installed a series of activated carbon filters for chromium recovery that removed 99 percent of the heavy metals from its industrial wastewater.

*Farmland Industries, Inc.'s, "AG*21 Process"* — an agricultural crop production management process that requires environmentally-sound practices to preserve soil and water resources at the co-op and on the farm.

Mineral Area College's, "Environmental Community-Building in the Old Lead Belt" — programs initiated under the leadership of Shawn Grindstaff include: the Mineral Area College Environmental Center, ISO 14000 implementation at Flat River Glass, EPA Region 7 Brownfields Cooperative Agreement with Bonne Terre, Park Hills Industrial Park Partnership, Environmental Roundtable, and St. Francois County Mine Waste Coalition.

Anheuser-Busch, Inc.'s "Bioenergy Recovery System" — the world's largest system for turning wastewater into energy is maintained at Anheuser-Busch's St. Louis Brewery.

New Chemicals Program Receives Vice Presidential Hammer Award

For its role in supporting industry efforts to develop environmentally friendly chemicals, the Office of Pollution Prevention and Toxics' New Chemicals Program was awarded the Vice Presidential Hammer Award. The award, presented at a ceremony in December 1997 at the National Press Club in Washington, D.C., recognized the program's involvement in promoting the development of a new detergent product, the TRITON SP series by Union Carbride, that reduces environmental pollution.

Awards

Innovative Transportation Solutions Recognized in "Way to Go" Awards

In October, 1997 EPA's Transportation Partners Program recognized nine innovative transportation projects with a "Way To Go" Award. The awards are part of the program's effort to highlight creative local transportation solutions that enhance community life and conserve environmental quality. 1997 recipients include:

City of Long Beach, CA for its program to increase the use of bicycles through free valet bicycle parking as a service to downtown employees and residents.

City of Tempe, AZ for its plan to include new bicycle and pedestrian facilities that will reduce driver-only vehicles.

Counties of Xenia and Greene, OH where 60 miles of former railways and a former railroad depot have been converted to encourage increased bicycle riding and walking to and from homes, workplaces, and activity centers.

NISSAN, USA for environmental improvement achieved by providing employees in Gardena, Calif., with a service that encourages commuting to work via modes other than the single-occupant vehicle.

Oregon Office of Energy for its project to encourage the use of telecommuting.

City of Aspen, CO for its comprehensive transportation/parking plan which will hold traffic at 1993 levels.

Thomas J. Evans Foundation for its project to provide an alternative method of pollution-free transportation and a safe and child-friendly transportation system in Newark, Ohio.

Rideshare Co. for developing a new non-profit commuter system that provides a unique, inexpensive, and environmentally-friendly form of commuting.

University of Colorado for a student-run, student-funded program that has increased the use of buses five-fold in six years.

For more information on the Partners Program, contact: EPA's Transportation Partners, tel: (202) 260-3729, or www.epa.gov/oppe/tp

Deregulation and Pollution Prevenion

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trucks. EVs are 95 percent cleaner than conventional vehicles, even with power plant emissions counted. And they never emit VOCs.

Individual electric utilities are moving EVs into their fleets, as vehicles become available from major manufacturers. And nationally, the electric utility industry continues to lead efforts to persuade car makers to sell electric vehicles nationwide.

Utilities also are working to prevent or lower VOC emissions by using low-VOC chemicals. Soybean ink, for example, is manufactured with soybean oil and varnish that replaces conventional petroleum hydrocarbon oil and varnish. Electric utilities such as Baltimore Gas and Electric Company now use soybean ink in a vast array of publications, thus reducing a source of VOC emissions. At the same time, these companies have substituted non-toxic chemicals for isopropyl alcohol, commonly used in printing.

These and scores of other pollution prevention activities from power generation to street lighting continue at electric utility facilities every day. Their number will undoubtedly grow. As deregulation sweeps across the land, electric utilities recognize that pollution prevention can save money, keep the environment clean, and help build a brighter community image wherever they do business.

News & Notes

PROJECT XL MODEL MILL COMPLETES FIRST YEAR

EPA Deputy Administrator Fred Hansen, company executives, staff, and public officials gathered in January to mark the first anniversary of the innovative EPA regulatory effort called Project XL at the Weyerhaeuser Flint River pulp mill in Oglethorpe, GA.

Weyerhaeuser's Oglethorpe plant

The mill, which produces fluff pulp, the absorbent component used in the manufacture of diapers, is a Project XL model created to demonstrate the superior environmental results that can be accomplished by working beyond the normal regulatory system. Through EPA-recommended management practices and a state-of-the-art facility that uses less water than most similar pulp mills, the XL program in one year reduced solid waste by 41%, wastewater emissions by 32%, and air emissions by 13%. *Further information is available on the Internet at: www.epa.gov/ProjectXL/.*

RULE WOULD REQUIRE 22 STATES TO ADDRESS OZONE TRANSPORT

EPA has proposed a rule to require 22 states and the District of Columbia to submit state implementation plans that address the regional transport of ground-level ozone, the main component of smog.

By improving air quality and reducing emissions of nitrogen oxide, or NOx, a precursor to ozone formation, the actions directed by these plans will decrease transport of ozone across state boundaries in the eastern half of the U.S.

The states subject to the proposed Ozone Transport Rule are: Alabama, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin.

Under the proposed rule, states may reduce emissions from any sources they choose. However, utilities and large non-utility point sources are among the most likely sources.

Eight northeastern states recently petitioned EPA, under Section 126 of the Clean Air Act, to take action to reduce NOx emissions from sources in upwind states. On December 19, EPA and the eight states signed a Memorandum of Agreement that harmonizes the timeframe on the Section 126 petitions with EPA's anticipated schedule for action on the Ozone Transport Rule. *A short summary of this document, including a timeline for action is available at: www.epa.gov/airlinks/.*

EPA, FIRM TO COLLABORATE ON P2 FOR DETERGENTS

EPA's Office of Pollution Prevention and Toxics recently signed a memorandum of understanding (MOU) with Anderson Chemical Co. of Litchfield, MN, to develop and promote laundry detergents with minimized environmental impacts for institutional cleaners.

Under the MOU, EPA will provide technical advice and support in developing products that use no alkali; incorporate a neutral pH detergent enhanced with natural, biodegradable enzyme systems and surfactants; and use oxygen-based bleaching systems and biodegradable softeners. The goal is for the products to increase water and energy efficiencies and extend fabric life.

The voluntary agreement was established under EPA's Design for the Environment program. *For more information, go to www.epa.gov/dfe or call 202-260-3374.*

RECIPES FOR CLEANER AIR

The Cookbook for Cleaner Air is a guide to gathering the critical ingredients within local communities to launch voluntary clean air initiatives. Businesses, concerned citizens, industry leaders, environmentalists, and regulators can collaborate in creative and innovative ways to bring about positive environmental results. Although it is still under consideration by a subcommittee of the Clean Air Act Advisory Committee, a draft version is available at www.epa.gov/oar/recipes/.

Conferences

Life Cycle Analysis Hits Its Stride

Life cycle analysis (LCA) methodologies have been used for several years now to assess the environmental impacts of products and industrial processes over their entire "life cycle" — from inputs to final disposal. To address the many challenges of implementing LCAs, the Research Triangle Institute in cooperation with EPA held a two-day conference in September 1997 on "Streamlining Life Cycle Assessment." Conference attendees included representatives from government, industry, consulting firms, academia, and environmental groups. Discussion at the conference ranged from the problems of defining the scope of LCAs and obtaining data to new tools available to help perform LCAs.

▶ **Data.** One of the key ingredients necessary for conducting an LCA is good, reliable data. It has also been the most commonly raised concern about their application.

First, little has been done to define the specific types of data that are needed for LCA studies. Second, a standard for developing LCA data needs to be set. Third, because no standard has been set, data are often inconsistent within and across industries. For example, many industries in the U.S. are currently developing life cycle databases, but there is no one central organization guiding the data development or implementing the data in a publicly available source. Some interest was expressed in having EPA develop and maintain a standard U.S. LCA database to house industry data.

▶ **Tools**. Two new LCA tools were presented at the conference. EcoSys, developed at the Sandia National Laboratories, is a computer-based tool to help develop environmentally conscious product/process designs by assessing the environmental impacts of existing or new processes and identifying the processes causing the most harm.

Another tool presented at the conference, developed by Battelle Memorial Institute, was the Environmental Profile Screening System (EPS), a 35-40 page handbook of environmental analysis routines that can be used to compare alternative systems or processes. The EPS contains approximately 30 criteria, such as raw material and energy consumption, toxic materials releases to air or water, and solid waste volume, that cover the entire life cycle of a product or process. An indexed scoring system ranks each criterion from one to nine on environmentally desirability.

For more information on EcoSys, e-mail W.T. Whellis at: wtwheel@sandia.gov; for more information on Battelle's EPS, e-mail Bruce Vigon at: vigonb@battelle.org.

For more information on the LCA conference, contact Keith Weitz, 919-541-6973, kaw@rti.org/.

Disposables vs. Cloth: The Diaper Dilemma

No issue has embodied the challenges of life cycle analysis more acutely than the choice between cloth and disposable diapers.

Disposable diapers consume energy during manufacturing and release pollution and waste water. According to *The Garbage Project*, a program of the Bureau of Applied Research in Anthropology, the University of Arizona (Tucson, AZ), cloth diapers require a comparable amount of energy to grow cotton, which takes large amounts of water and pesticides, and to fuel a lifetime average of 180 launderings. Diaper services utilize mostly renewable resources, but also use chemical detergents, water, and gasoline.

The key difference: non-renewable plastic in disposable diapers takes 500 years to decompose, while cloth diapers take six months. Disposables account for 85-90% of all diapering done in America—a higher percentage than five years ago.

Some inventors hope to combat the problem of landfill volume. The Diaper Club of Knowaste LLC (Mississauga, Ontario) recycles disposables, providing home delivery and pick-up. The recycling process, which consists of shredding, washing, and separating the dirty diapers, uses non-toxic, proprietary chemicals to yield high-grade wood pulp, mixed plastics, and the diaper's absorbent gel, which the company is researching for possible agricultural applications. The Diaper Club currently serves about 3,000 customers in Toronto and plans to expand the service in Boston, Buffalo and Detroit this year. *For more information, see the October 1997 issue of* Waste Age.

Calendar

DATE/SITE	EVENT	SPONSOR	CONTACT	E-MAIL/WWW
April 28-May 1 Cincinnati, OH	P2 Cincinnati '98: Spring Conference	National P2 Roundtable	Tel: 202-466-P2P2 Fax: 202-466-7964	michelrusso@compuserve.com
April 28 Cincinnati, OH	Stakeholders Dialogue on Future of P2 Grants to States (part of P2 Cincinnati, see above)	EPA	Christopher Kent Tel: 202-260-3480	kent.christopher@epamail.epa.gov
May 3-6 Knoxville, TN	National Conference on Environmental Decision Making	National Center for Environmental Decision Making	Tel: 423-974-3939	ggodfrey@utk.edu
May 7-8 Queens, NY	TOPical TEChnical symposium: Making Hybrid Electric Vehicles Commercially Viable	The Society of Engineers/Northeast Sustainable Energy Association	Tel: 413-774-6051 Fax: 413-774-6053	http://www.nesea.org
May 11-13 Research Triangle Park, NC	Environmental Summit '98	Environmental Resource Center	Tel: 888-4ES-1998 Fax: 919-469-4173	bramos@ercweb.com
May 27-31 Columbia, MO	7th International Symposium on Society and Resource Management: Culture, Environment, and Society	University of Missouri-Columbia	Tel: 573-882-0861 Fax: 573-882-1473	ssrsjsr@muccmail.missouri.edu
June 1-4 Seattle, WA	Pollution Prevention Conference XIV	DOE	Tel: 509-372-1627 Fax: 509-373-0743	http://www.hanford.gov/polprev/conference/index.htm
June 3-5	Florida's 2nd Annual Pollution Prevention Conference	University of Florida/Center for Training, Research and Education for Environmental Occupations	Tel: 352-392-9570, ext. 127 Fax: 352-392-6910	train@treeo.doce.ufl.edu
June 14-18 San Diego, CA	91st Annual Meeting and Exhibition: Bridging International Boundaries, Clean Production for Environmental Stewardship	Air & Waste Management Association	Tel: 412-232-344, ext. 3137 Fax: 412-232-3450	kwander@awma.org
June 23 Terre Haute, IN	2nd Annual P2 Conference	Terre Haute Wastewater Treatment Plant	Bill Cultice Tel: 812-232-6564	pretreat@indy.net
July 7-10 Washington, DC	4th International Interdisciplinary Conference on the Environment	Interdisciplinary Environmental Association	Tel: 508-767-7557 Fax: 508-767-7382	dkantar@eve.assumption.edu
Aug. 25-28 San Antonio, TX	3rd Annual Joint Service Pollution Prevention Conference & Exhibition	National Defense Industrial Assoc.	Tel: 703-522-1820 Fax: 703-522-1885	ckline@ndia.org cberry@ndia.org

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